

United States Department of the Interior  
National Park Service

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets (NPS Form 10-900a).**

## 1. Name of Property

Historic name O. S. Warden Bridge

Other names/site number 24CA401/MDT Identification No. P00060094+08282

## 2. Location

street & number Tenth Avenue South crossing of Missouri River

☐ not for publication

city of town Great Falls

☐ vicinity

State Montana code MT county Cascade code 013 zip code 59404

## 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination      request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets      does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

     national X statewide X local

Signature of certifying official

Date

Title

State or Federal agency and bureau

In my opinion, the property      meets      does not meet the National Register criteria.

Signature of commenting official

Date

Title

State or Federal agency and bureau

## 4. National Park Service Certification

I, hereby, certify that this property is:

Signature of the Keeper

Date of Action

     entered in the National Register

     determined eligible for the National Register

     determined not eligible for the National Register

     removed from the National Register

     other (explain:)

O. S. Warden Bridge  
Name of Property

Cascade County, Montana  
County and State

## 5. Classification

### Ownership of Property (Check as many boxes as apply)

☐ private  
☐ public - Local  
☒ public - State  
☐ public - Federal  
☐ private

### Category of Property (Check only **one** box)

☐ building(s)  
☐ district  
☐ site  
☒ structure  
☐ building(s)  
☐ object

### Number of Resources within Property (Do not include previously listed resources in the count.)

Contributing	Noncontributing	
		buildings
		sites
1		structures
		Objects
		buildings
1	0	<b>Total</b>

### Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing)

Montana's Historic Steel Stringer and Steel Girder  
Bridges, 1901-1961

### Number of contributing resources previously listed in the National Register

N/A

## 6. Function or Use

### Historic Functions

(Enter categories from instructions)

TRANSPORTATION/Road-related (vehicular) =  
Bridge

### Current Functions

(Enter categories from instructions)

TRANSPORTATION/Road-related (vehicular) =  
Bridge

## 7. Description

### Architectural Classification

(Enter categories from instructions)

OTHER: Steel Girder Bridge

### Materials

(Enter categories from instructions)

foundation: CONCRETE, METAL: Steel

walls:

roof:

other: METAL: Steel, CONCRETE

O. S. Warden Bridge

Name of Property

Cascade County, Montana

County and State

### **Narrative Description**

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

#### **Summary Paragraph**

The O. S. Warden Bridge consists of one contributing structure, a multi-span steel girder structure. The bridge crosses the Missouri River on Tenth Avenue South in Great Falls, Montana. The bridge is 2,092 feet long and 38.5 feet wide. A second structure of nearly equal length is located adjacent to it; it was built in 1983. For many years, the Warden Bridge was the longest bridge in Montana. It is an excellent example of a steel girder bridge and the first to use hammerhead type concrete piers in its construction. The bridge opened up Tenth Avenue South for commercial development and the setting of the bridge is still largely commercial.

### **Narrative Description**

The O. S. Warden Bridge is located on Tenth Avenue South about one mile east of the Interstate 15 interchange in Great Falls, Montana. The bridge crosses the Missouri River and the BNSF Railway Company's branch line to Helena. It is also located just a few hundred feet from the confluence of the Missouri and Sun rivers. Great Falls derived its name from the Great Falls of the Missouri River. The area comprised of late Cretaceous sediments called the Fort Union Formation was once located underwater both during the Cretaceous and again, under Glacial Lake Great Falls, during the Pinedale ice age about 15,000 years ago. The Adel Mountains to the south are the remnants of a volcanic pile that erupted about 55 million years ago. The Highwood Mountains to the east are also a volcanic intrusion. The area presently encompassing the bridge displays a mixture of commercial and light industrial, and recreational use.<sup>1</sup>

The O. S. Warden Bridge crosses the Missouri River, River Road, and the BNSF Railway Company tracks on Tenth Avenue South in Great Falls. The bridge is 2,092 feet in length and 38.5 feet wide; it has a roadway width of 28 feet. The bridge consists of six steel girder main spans with an overall length of 1,007 feet. There are 20 steel stringer approach spans on the east end of the bridge and one reinforced concrete T-beam tower approach span on the west end of the bridge. The main spans consist of five 150-foot spans and one 185-foot span. The approach spans alternate between 51-foot and 64-foot spans. The substructure is comprised of two full-height reinforced concrete abutments. All but four of the spans are supported by reinforced concrete hammerhead-type abutments; there are also four skewed open columnar-type abutments on the east end of the bridge to accommodate River Drive and the railroad tracks.

The main spans are comprised of two steel girders with angle section flanges and stiffeners riveted to the planes of the features. The girders are connected by steel girder floor beams at the piers; they, too, have angle section flanges and stiffeners riveted to them. There are also angle section sway and bottom lateral braces under the deck. The concrete slab deck is supported by three lines of steel I-beam stringers. The deck is flanked by raised concrete sidewalks and the steel post-and-baluster guardrails standard to MDT-built bridges during the 1950s. The sidewalks overhang the girders and are supported by steel I-beam brackets.

Twenty of the 21 approach spans are steel I-beam stringer structures. The concrete slab decks are supported by five lines of steel I-beam stringers. The decks overhang the stringers and are supported by concrete brackets. The decks on the approach spans are also flanked by raised concrete sidewalks with the ubiquitous steel post-and-baluster guardrails. The approach span on the west is an 85-foot reinforced concrete T-beam tower-type span. The span consists of four lines of concrete girders enclosed in a box consisting of concrete web walls with decorative grooves on the exterior. The boxes are filled with rubble.

#### **Integrity**

The O. S. Warden Bridge retains excellent integrity and is a good example of the type of steel girder bridges designed and built by the Montana Highway Department in the post-World War II years. All of the structural components standard to the type are intact and unchanged, including the distinctive web-stiffened girders and the concrete hammerhead piers. The original guardrails are still intact. In 1983, the highway department built a two-lane steel stringer bridge next to the Warden Bridge to facilitate traffic on Tenth Avenue South. That bridge is structurally compatible to the older bridge and does not significantly diminish its integrity.

<sup>1</sup> David Alt and Donald W. Hyndman, *Roadside Geology of Montana*, (Missoula: Mountain Press Publishing, 1991), 270-271.

O. S. Warden Bridge  
Name of Property

Cascade County, Montana  
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## 8. Statement of Significance

### Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- ☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B Property is associated with the lives of persons significant in our past.
- ☒ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D Property has yielded, or is likely to yield, information important in prehistory or history.

### Criteria Considerations

(Mark "x" in all the boxes that apply)

Property is:

- ☐ A owned by a religious institution or used for religious purposes.
- ☐ B removed from its original location.
- ☐ C a birthplace or grave.
- ☐ D a cemetery.
- ☐ E a reconstructed building, object, or structure.
- ☐ F a commemorative property.
- ☐ G less than 50 years old or achieving significance within the past 50 years.

### Areas of Significance

(Enter categories from instructions)

Engineering

Transportation

### Period of Significance

1951-1961

### Significant Dates

1951

### Significant Person

(Complete only if Criterion B is marked above)

### Cultural Affiliation

### Architect/Builder

Montana Highway Department

Anderson Construction Company

### Period of Significance (justification)

The Period of Significance encompasses the construction date of the bridge and its subsequent function as a river crossing on Tenth Avenue South in Great Falls, Montana. The bridge remains in use.

### Criteria Considerations (explanation, if necessary)

O. S. Warden Bridge  
Name of Property

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**Statement of Significance Summary Paragraph** (provide a summary paragraph that includes level of significance and applicable criteria)

The O. S. Warden Bridge can be listed on the National Register of Historic Places under Criteria A and C. The bridge is representative of the Montana Highway Department's attempts to improve and expand the state's highway system in the wake of World War II. The bridge, moreover, was once the longest bridge in the state and is responsible for the development of Tenth Avenue South as a significant commercial area in the 1950s and 1960s. The bridge is an excellent example of a steel girder bridge that incorporates some new design elements that weren't previously utilized in long-span bridges of this type in Montana.

**Narrative Statement of Significance** (provide at least **one** paragraph for each area of significance)

The O. S. Warden Bridge is eligible for listing in the National Register of Historic Places under Criterion A for its association with the Montana Highway Department's post-World War II construction programs to modernize the state's transportation system and provide roads and bridges in the state's urban areas. The bridge was the longest and most expensive project undertaken by the department up to 1951. Its importance to the department's programs manifested itself in the high profile of the project and the unprecedented reports made about the progress of the structure at the Montana State Highway Commission's monthly meetings. The bridge is also significant for the impact it had on the post-war development of Great Falls. Prior to the completion of the bridge, Tenth Avenue South dead-ended at the river and was the site of railroad warehouses, light industrial businesses, a few motels and restaurants, and numerous residences. The bridge made Tenth Avenue South a through route on US Highways 87 and 89 and, in 1967, connected to Interstate 15. Consequently, commercial development of the street boomed, diverting businesses from the downtown area to Tenth Avenue South. The street became a heavily developed commercial strip and included one of the first indoor shopping malls built in Montana. It also allowed the residential development of the south and east ends of Great Falls. The O. S. Warden Bridge facilitated that development and is probably the best example of the type of impact a bridge could have on the post-war growth of an urban center in Montana.

The bridge is an excellent and intact example of the type of steel girder bridge designed and built by the Montana Highway Department in the years following World War II. It retains all the standard components common to the type which remain intact and unchanged. The bridge also includes 21 steel stringer approach spans resting on concrete hammerhead piers – a design that was new to the Montana Highway Department when the bridge was built. At 2,093 feet, it was the longest bridge in the state until surpassed by the Lake Kookanusa Bridge in 1971. Increasing traffic demands on Tenth Avenue South and Interstate 15 caused the highway department to construct a two-lane steel stringer bridge next to the Warden Bridge in 1983. At 2,122 feet, it is 29 feet longer than the Warden Bridge. However, the design of the new structure is structurally compatible to the Warden bridge and does not detract significantly from the older structure. The bridge is an excellent example of a steel girder bridge and is eligible for the National Register under Criterion C.

**Engineering Significance**

At 2,093 feet in length and 25 spans, the O. S. Warden Bridge was the longest bridge in Montana until surpassed by the Lake Kookanusa Bridge in northwest Montana in 1971 (2,437 feet). It is the longest and most massive steel girder bridge in the state and incorporates several design elements, such as the hammerhead piers, that were new to bridge structures in the state. The bridge was also part of an extensive program by the Montana Highway Department to build bridges in urban areas in the years after World War II. In the case of the Warden Bridge, the structure significantly changed transportation patterns on US Highway 89 and within the City of Great Falls, resulting in an explosion of commercial development along Tenth Avenue South. Even today (2011), Great Falls' commercial core is centered on the Tenth Avenue South and the new business developments west of the bridge just off of Interstate 15. The Warden Bridge remains a significant arterial in Montana's third largest city.

O. S. Warden Bridge  
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**Developmental history/additional historic context information (if appropriate)**

Many of the big bridges designed and built by the Montana Highway Department after World War II were located in proximity to the state's major urban centers to improve access to them from the surrounding rural areas and to improve trade networks between Montana's cities and towns. In 1948 and 1949, the commission let contracts to build new bridges near Butte, Missoula, and Billings. One of the most important of these projects was a new bridge across the Missouri River at Great Falls, which had a profound effect, permanently altering its pattern of development by creating a new entrance to the city. Before 1951, the Second Avenue North Bridge provided the only access to Great Falls from west of the river. Tenth Avenue South consisted of a scattering of warehouses, tourist cabin camps, auto repair shops, and working-class dwellings. Within a decade after the completion of the bridge, this street in the "Electric City" transformed into one the state's busiest thoroughfares, lined with stores, service stations, restaurants, and, by 1959, one of Montana's first shopping malls. Where Tenth Avenue South once dead-ended at the Missouri River, it now provided access to two major highways and the expanding Malmstrom Air Force base.<sup>2</sup>

On 29 June 1949, the highway commission let a contract for the construction of a "1,007.4-foot steel and concrete bridge over the Missouri River, and a 1,085.4-foot bridge steel and concrete viaduct and overpass over the Great Northern Railway" in Great Falls. The highway commissioners called it the "largest bridge and structural contract that this department has ever handled." The Anderson Construction Company of Great Falls underbid its competitors by \$221,000 to build the \$1.7 million structure, the most expensive bridge built by the highway department up to that time. Anderson was able to bid low on the project because steel prices were low. The company paid 22¢ per pound for the 1,192.5 tons of structural steel needed for the bridge. The 2,093-foot bridge consists of six steel girder main spans and twenty-one steel stringer approach spans. The approaches rest on reinforced concrete hammerhead piers, the first of that design built in Montana. Instead of the standard ten-foot driving lanes, the bridge carried two fourteen-foot driving lanes over the river on a deck flanked by decorative concrete guardrails. Truly a Great Falls product, the Anderson Construction Company built the bridge and HGR Construction Company of the Electric City built the approach roads.<sup>3</sup>

The highway commission's new long-range plan to improve intra- and interstate travel and commerce manifested itself in the O. S. Warden Bridge, named for Oliver S. Warden, former publisher of the *Great Falls Tribune* and member of the highway commission from 1924 to 1936 who was a tireless advocate of improved roads and bridges. Dedication of the structure took place during the city's annual Fall Festival on September 15, 1951. Warden's widow, Eleanor, and son, Jock, cut the ribbon to the structure, opening up what would be one of the most important bridges built in Montana during the twentieth century. Great Falls Chamber of Commerce president Ray Welter called the bridge a "lasting monument to the loyalty and vision of community leaders with a burning desire to serve their fellow men." The bridge provided a new entrance to Great Falls off U.S. Highway 91 (and later Interstate 15) and facilitated the shipment of goods between eastern and western Montana via Montana Highway 200.<sup>4</sup>

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**9. Major Bibliographical References**

**Bibliography** (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets)

**Bibliography**

"\$1,257,319 Project to Create New Entrance to Falls." *Great Falls Tribune*, 30 June 1949.

Alt, David and Donald W. Hyndman. *Roadside Geology of Montana*. (Missoula: Mountain Press Publishing, 1991).

Axline, Jon. *Conveniences Sorely Needed: Montana's Historic Highway Bridges, 1860-1956*. (Helena: Montana Historical Society, 2005).

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<sup>2</sup> Sanborn Fire Insurance Company Maps: Great Falls, Montana, 1929, 1950, 1957. Montana Historical Society, Helena.

<sup>3</sup> Montana Highway Commission Book 9, 398, 407, 409 (29 June 1948); "\$1,257,319 Project to Create New Entrance to Falls." *Great Falls Tribune*, 30 June 1949.

<sup>4</sup> Ibid, 10, 274 (10 May 1951); "Bonner Cites Warden's Road Vision," *Great Falls Tribune*, 15 September 1951; Montana Highway Commission, Book 10, 309-310 (11 January 1949); "O.S. Warden Bridge Dedication Features Second Day of Fall Festival," *Great Falls Tribune*, 14 September 1951; "Bonner Cites Warden's Road Vision," *Great Falls Tribune*, 15 September 1951.

O. S. Warden Bridge

Name of Property

Cascade County, Montana

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"Bonner Cites Warden's Road Vision." *Great Falls Tribune*, 15 September 1951.

Bridge Condition Survey No. 107-0917-0009. Montana Department of Transportation. Helena, Montana.

Bridge Inspection Record No. P00060094+08282. Montana Department of Transportation. Helena, Montana.

Montana State Highway Commission Meeting Minute Books. Montana Department of Transportation. Helena, Montana.

"O.S. Warden Bridge Dedication Features Second Day of Fall Festival." *Great Falls Tribune*, 14 September 1951

Sanborn Fire Insurance Company Maps: Great Falls, Montana, 1929, 1950, 1957. Montana Historical Society. Helena, Montana.

**Previous documentation on file (NPS):**

☐ preliminary determination of individual listing (36 CFR 67 has been requested)  
☐ previously listed in the National Register  
☐ previously determined eligible by the National Register  
☐ designated a National Historic Landmark  
☐ recorded by Historic American Buildings Survey # \_\_\_\_\_  
☐ recorded by Historic American Engineering Record # \_\_\_\_\_

**Primary location of additional data:**

☐ State Historic Preservation Office  
☒ Other State agency  
☐ Federal agency  
☐ Local government  
☐ University  
☐ Other

Name of repository: **Montana Department of Transportation**

Historic Resources Survey Number (if assigned): \_\_\_\_\_

**10. Geographical Data**

**Acreage of Property** 5.0

(do not include previously listed resource acreage)

**UTM References**

(Place additional UTM references on a continuation sheet)

1 12 476410 5259795  
Zone Easting Northing

3 \_\_\_\_\_  
Zone Easting Northing

2 \_\_\_\_\_  
Zone Easting Northing

4 \_\_\_\_\_  
Zone Easting Northing

**Verbal Boundary Description** (describe the boundaries of the property)

The boundary for the O. S. Warden Bridge measures 2,200 x 40 feet. The rectangle encompasses the bridge and its approaches on both sides of the Missouri River. The boundary is centered on the bridge.

O. S. Warden Bridge  
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**Boundary Justification** (explain why the boundaries were selected)

Boundaries for the O. S. Warden Bridge are drawn to encompass the 25 spans of the bridge, its immediate approaches and that portion of the Missouri River spanned by the bridge. The width is increased beyond the measurements of the structure to include the piers and abutments.

**11. Form Prepared By**

name/title Jon Axline/Historian

organization Montana Department of Transportation

date November 18, 2009

street & number 2701 Prospect Avenue

telephone (406) 444-6258

city or town Helena

state MT

zip code 59620-1001

e-mail [jaxline@mt.gov](mailto:jaxline@mt.gov)

**Additional Documentation**

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

- **Continuation Sheets**
- **Additional items:** (Check with the SHPO or FPO for any additional items)

**Photographs:**

Submit clear and descriptive black and white photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

**(See Continuation Sheets)**

**Property Owner:**

(Complete this item at the request of the SHPO or FPO.)

name Montana Department of Transportation

street & number 2701 Prospect Avenue

telephone 406-444-6200

city or town Helena

state MT

zip code 59602-1001

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, PO Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.



United States Department of the Interior  
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## National Register of Historic Places Continuation Sheet

O.S. Warden Bridge

Name of Property

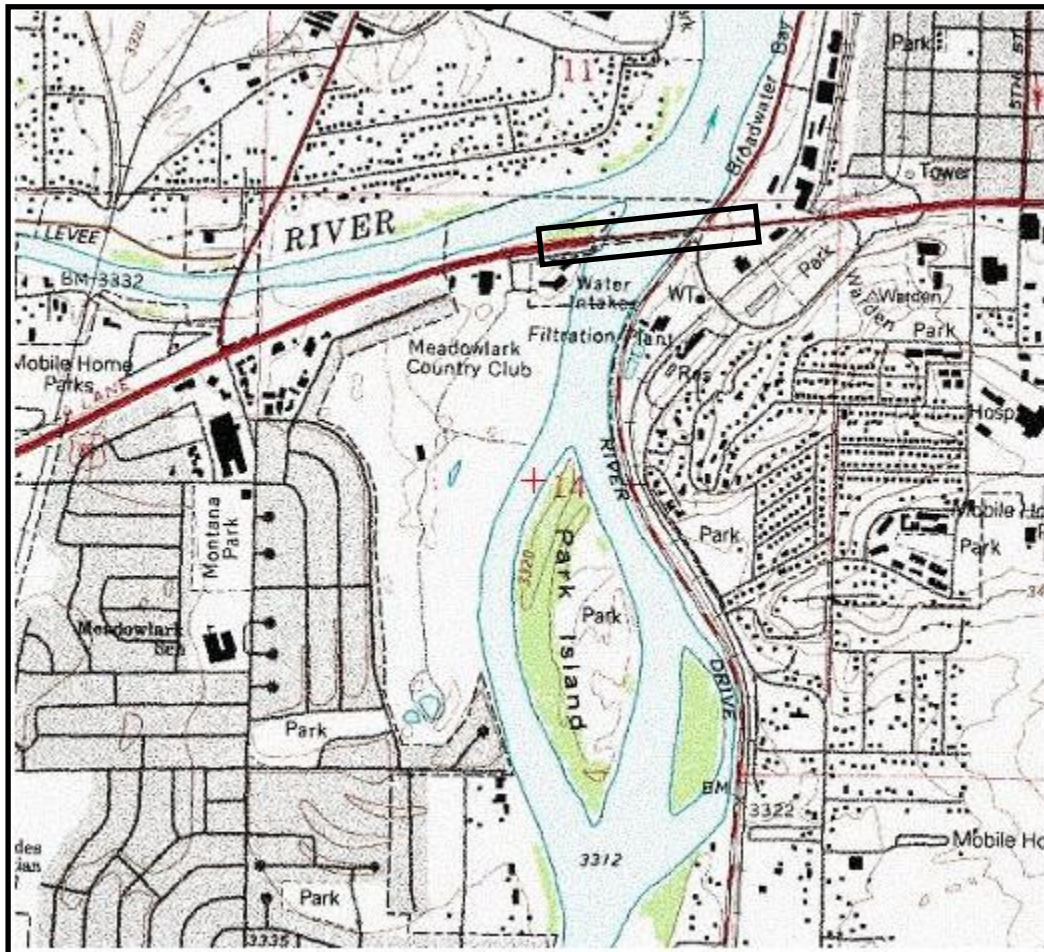
Cascade, MT

County and State

Montana's Historic Steel Stringer and Steel  
Girder Bridges, 1901-1961

Name of multiple listing (if applicable)

Section number Map Page 9



Southwest Great Falls, Montana USGS Quadrangle Map, 1975

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**National Register of Historic Places  
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O.S. Warden Bridge

Name of Property

Cascade, MT

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Montana's Historic Steel Stringer and Steel  
Girder Bridges, 1901-1961

Name of multiple listing (if applicable)

Section number Photographs Page 10

Name: O. S. Warden Bridge  
County and State: Cascade County, Montana  
Photographer: Kristi Hager  
Date of Photograph: 2005  
Location of original negative: Montana Department of Transportation. Helena, Montana.  
Description and view of camera: South profile. View to the northwest  
Photograph: 0001

Name: O. S. Warden Bridge  
County and State: Cascade County, Montana  
Photographer: Kristi Hager  
Date of Photograph: 2005  
Location of original negative: Montana Department of Transportation. Helena, Montana.  
Description and view of camera: South profile. View to the northwest.  
Photograph: 0002

Name: O. S. Warden Bridge  
County and State: Cascade County, Montana  
Photographer: Kristi Hager  
Date of Photograph: 2005  
Location of original negative: Montana Department of Transportation. Helena, Montana.  
Description and view of camera: South profile. View to the northeast.  
Photograph: 0003

United States Department of the Interior  
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## National Register of Historic Places Continuation Sheet

O.S. Warden Bridge

Name of Property

Cascade, MT

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Montana's Historic Steel Stringer and Steel  
Girder Bridges, 1901-1961

Name of multiple listing (if applicable)

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Photo 0001. O. S. Warden Bridge. South profile. View to the northwest.



Photo 0002. O. S. Warden Bridge. South profile. View to the northwest.

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## National Register of Historic Places Continuation Sheet

O.S. Warden Bridge

Name of Property

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Montana's Historic Steel Stringer and Steel  
Girder Bridges, 1901-1961

Name of multiple listing (if applicable)

Section number Photographs

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Photo 0003. O. S. Warden Bridge. South profile. View to the northeast.